31: Danielsson--83 (1946-48) 1949 Jivaro
116, 122

"The material for this study was collected during travels in Western Amazonas, October 1946--January 1947, as a member of the Finnish-Swedish Amazon Expedition, and during a second visit to the same area in March-April 1948. Dr. George A. Lundberg, University of Washington, suggested the study to me, and together with Dr. Stuart Dodd, Washington Public Opinion Laboratory, has made many valuable suggestions. Dr. Rafael Karstein, [sic] University of Helsinki, Finland, specialist on the Jibaro anthropology and leader of the Finnish-Swedish Amazon Expedition, has supplied me with much information. For help in collecting material I am indebted to Father Juan Ghinassi and Sr. Guillermo Lopez, Chinimbi, Ecuador. I am also greatly indebted to Orabelle Connally for drawing the charts and to Lenore Dickson and Virginia Hertzler for critical and extensive proof reading of the manuscript and the proofs."

Ji; Danielsson-83-84
116, 121, 571

(1946-48) 1949

"As often has been pointed out, the advance of sociology depends principally on the development of objective techniques of determining social interaction in human populations and on the formulation of universal laws for describing this interaction. The principal obstacle to the development of these new techniques and to the formulation of general laws is the difficulty of undertaking experiments. This difficulty is, of course, chiefly one of ethical attitude. Sociological experiments are not yet in public opinion regarded as naturally permissible as experiments in the natural sciences. This attitude is a real and considerable difficulty. The idea underlying the present study is that while we are waiting for a change of public opinion sociometric studies among primitive peoples (the term 'primitive' here of course meaning 'not having a written language') might in some cases give us a substitute for experiments, or in any case that studies of this type might contribute to the basic work on sociological theory and method.

The characteristics to be sought among primitive peoples which would be favorable for the sociological researcher with the mentioned point of view in mind are the following:

1. Relative isolation from other primitive tribes and from other cultural groups, thus limiting the number of disturbing influences.

2. Small number of individuals, permitting not only a sampling, but a complete canvass.

3. A simple social structure, at least in comparison with the civilized [84] societies ('those having a written language'). The structure is generally simpler among primitive peoples of course principally due to the fact that indirect communication, in space and time, is very limited. As a consequence, in a primitive society basic sociological patterns underlying all human behavior could more easily be found.

As a primitive people, the Jibaro Indians from Western Amazonas, chosen for the present study, seem to fulfill these requirements."

31: Danielsson--84 (1946-48) 1949 Jivaro
116, 131, 181

"The location of the Jibaro Indians is shown on Map I. This region is mostly a plain land with dense tropical jungle and many rivers and streamlets. Some mountain offshoots from the Andes, however, are to be found in the western parts. The communications are difficult, and natural barriers divide the territory. The total number of the population is unknown, but a guess of something around 10,000 seems justified. The Jibaros are one of the few tribes in Western Amazonas that has managed to maintain their political and cultural independence. White settlements exist only along the fringe of the Jibaro country and in the form of some isolated garrisons on the Morona and Santiago rivers. On the whole the Jibaros have successfully resisted all civilizing impact."

31; Danielsson--84 [2] (1946-48) 1949 Jivaro
116

"The Jibaros are collectors of food, cultivators, hunters, and fishers. The staple food consists of manioc, plantain, and potato, to which occasionally is added game and fish. Pigs, fowls, and ducks are maintained as domesticated animals, but they are usually killed only at feasts and celebrations. Division of labor is practiced, the men doing the hunting, fishing, clearing of the fields and building of the houses, the women cultivating the fields and keeping the household.(2)"

"2. For a more complete and detailed description of the Jibaros, see Rafael Karsten The Head-Hunters of Western Amazonas, Helsingfors, 1935."

31; Danielsson--84 [3] (1946-48) 1949 Jivaro
116, 134, 361

"As the rains are very heavy and frequent the uppermost thin layer of humus is washed away from the fields in a few years time. Consequently the Jibaros stay in the same place only as long as the fields are able to produce crops; and then leave to find a new dwelling-place. (This seems to be the real reason for their semi-nomadic character, frequently ascribed to the so-called 'wandering instinct.') Usually they move around within a very limited area."

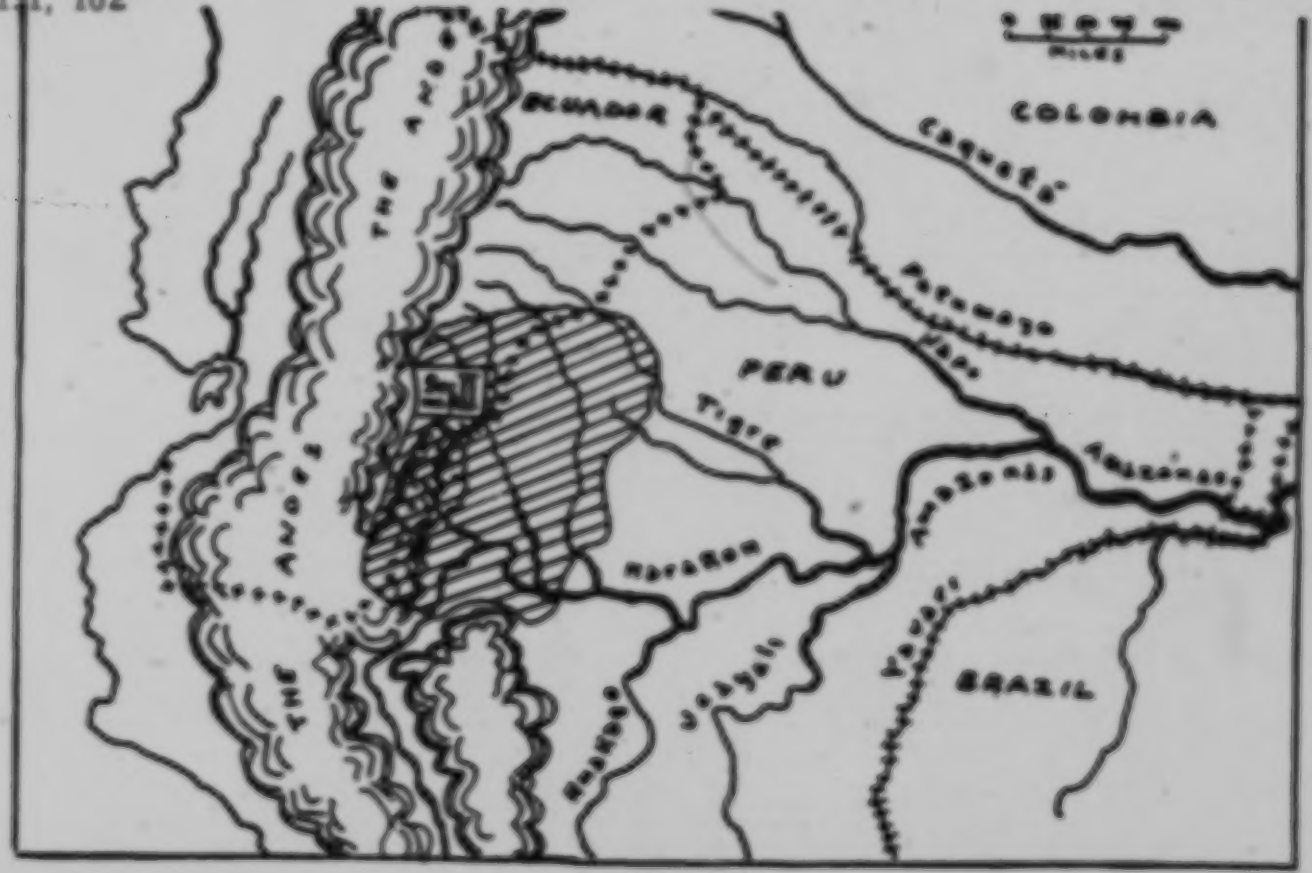
31: Danielsson--84-86 (1946-48) 1949 Jivaro
116, 571, 592, 342, 361

"The only social unit is the family, which term is used for describing all individuals related by birth or by intermarriage and living in the same house. Each such house forms an independent social, political and economic [86] unit. The houses have large dimensions (fifty by one hundred feet is not an uncommon size), and a house may contain up to fifty persons. The family houses are scattered in sparse clusters along the rivulets. Two houses are seldom found together, and the distance between the separate houses generally varies from one to five miles. (The locations of each family house dealt with in this study are shown with Roman figures on Map II. The houses indicated are all that exist in the mapped area.)"

31; Danielsson--85
116, 131, 102

(1946-48) 1949

Jivaro



MAP I

31: Danielsson--86 (1946-48) 1949 Jivaro
116, 592, 162

"Each house-group is made up of various men and their wives and children. A usual combination is: the head of the family, some of his brothers and sons and some sons-in-law, each one with his wives and children. That the Jibaros practise polygamy seems to be easily explained by the fact that the continual wars and fights have greatly reduced the male population. The sex ratio for the adult population, for instance, for the groups studied is 69 men to 168 women. (See Table I)."

Bj: Danielsson--86 [2] (1946-48) 1949 Jivaro
116, 622, 183

"There is no permanent chief for the different geographical groups. (Each cluster of houses is named after the rivulets where they are situated, as for instance the Patucas, the Yurupanas, the Yaupis.) The family head is the highest authority and his power is limited to the members of his house. Only in time of war are chiefs appointed for larger units, but their power is provisional and confined to the war-period only."

31: Danielsson--86 [3] (1946-48) 1949 Jivaro
116, 721

."Great hostility exists generally among and between the various geographical groups, and wars of extermination are often waged. It is at these occasions that the head-trophies are taken and prepared, thus giving the Jibaros their popular name: The Head-Hunters of Western Amazonas."

"The so-called 'fight-instinct' has frequently been mentioned as the cause of the warlike character of the Jibaros. There seem, however to be less mystical explanations, and the most common causes of fights and wars are probably the following: Violation of social mores, wish for revenge, damage through witchery, traditional rivalry, enmity, and stealing women.(3)[89]

It should, however, be noticed that there is a difference in practice concerning the killing within the same geographical group and between different geographical groups. In the first case, jus talionis is strictly followed. The same number from the enemy family is killed that was lost by the offended family. In the second case, namely, conflicts between different geographical groups, a complete war of extermination is carried out."

"3. [See following sheet for footnote 3.]

"3. [Footnote 3; pages 86-88] That controversies on account of such factors as listed here usually lead to open fighting and killing is of course due to the lack of an established common law maintained by functional groups (police, judges, wardens), as the Swedish philosophers Hagerstrom and Olivecrona have pointed out. An experiment was made among the Yurupaza Jibaros in collaboration with Father Juan Ghinassi and with the consent of the Indians themselves. A jail was built at Father Juan's courtyard, and the Indians agreed to bring there all delinquents whom they unanimously regarded guilty, instead of letting the involved parties fight it out as they had done before. (As a matter of fact the majority of the Indians usually have a clear idea about who is the guilty according to the mores.) This turned out to be a working solution. The Indians considered the mere act of confinement as such to be a sufficiently severe penalty (the lack of liberty [87] is the greatest misfortune and shame that can occur to a Jibaro Indian), and the time of confinement was of no importance to them. The common 'sentence' was one or two days. All attempts to give Father Juan also judicial power were, however, in vain. The Indians correctly pointed out, that in spite of the fact that he had lived among them for the last twenty years, he didn't know as much as themselves about the mores and traditions of the society. During the subsequent seven months seventeen Indians were sentenced to imprisonment, and Father Juan's last report says that the rate of fighting and killing has decreased considerably. None of the Indians had insisted on long

prison terms, but some of them suggested that Father Juan should insult the prisoners several times a day as an additional penalty. All the 'plaintiffs' declared themselves to be content with the arrangement of imprisonment as a penalty."

31: Danielsson--87
116, 361, 121

(1946-48) 1949

Jivaro

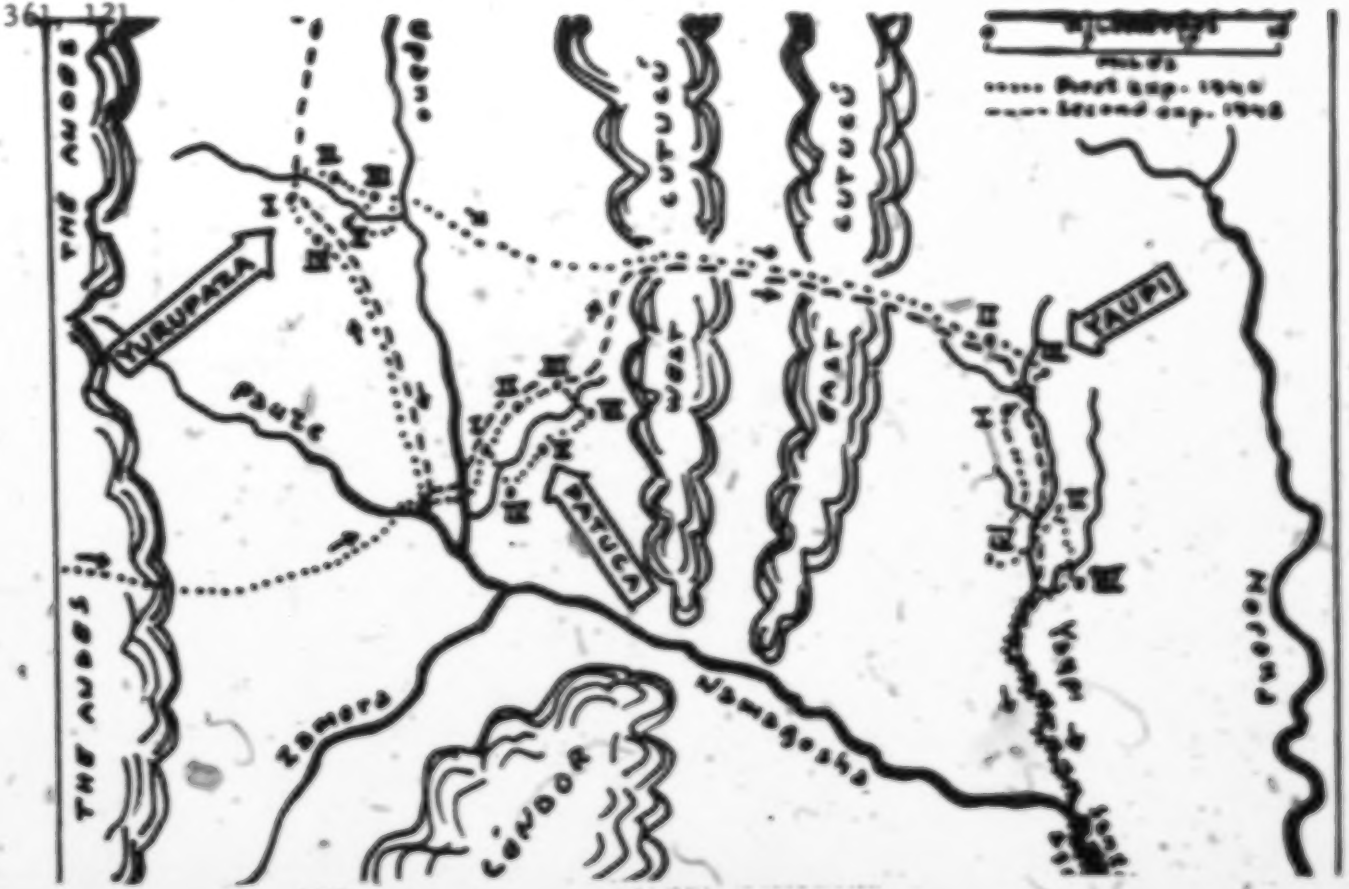


TABLE I

TOTAL POPULATION IN THE THREE GEOGRAPHICAL GROUPS

Family number	Adults (Initiated) Men: Married	Men: Unmarried	Women: Married	Women: Unmarried	Children (Not initiated) Boys: Unmarried	Girls: Married	Girls: Unmarried	Total male	Total female	Total number
Patuca										
I	4	0	11	3	9	1	7	13	22	35
II	4	1	9	1	4	3	5	9	18	27
III	3	0	7	0	7	0	6	10	13	23
IV	5	0	18	2	6	2	9	11	31	42
V	3	0	8	0	5	1	3	8	12	20
VI	3	0	5	1	2	2	2	5	10	15
Total	22	1	58	7	33	9	32	55	107	162
Yurupaza										
I	5	1	14	2	10	0	12	16	28	44
II	4	0	55	0	4	2	3	8	10	18
III	3	0	8	1	4	0	5	7	14	21
IV	3	0	77	0	5	1	7	8	15	23
V	5	1	12	2	12	2	10	18	26	44
Total	20	2	46	5	35	5	37	57	93	150
Yaupi										
I	5	0	9	0	14	3	15	19	27	46
II	4	0	11	1	13	0	14	17	26	43
III	3	1	8	0	11	0	9	15	17	32
IV	3	0	4	0	6	1	7	9	12	21
V	4	0	11	1	6	1	8	10	21	31
VI	4	0	7	0	4	2	5	8	14	22
Total	23	1	50	2	54	7	58	78	117	195
Total	65	4	154	14	122	21	127	190	317	507

31: Danielsson--89 (1946-48) 1949 Jivaro
116, 173, 202

"Indirect communication is very limited, consisting only of some few standardized messages circulated by the signal-drum to overcome distance in space, and of some orally preserved traditions to overcome distance in time."

31: Danielsson--89 [2] (1946-48) 1949 Jivaro
116, 776

"Beliefs in spirits, both benevolent and evil ones, are common and some of these spirits are supposed to be located in plants and animals and are in these forms objects of worship."

31: Danielsson--89 [3] (1946-48) 1949 Jivaro
116, 571, 186

"The present study is of the 'atomic' type.(4) Each individual is regarded as a unit integrated in a system, in the same way as the atoms form certain patterns in the so-called material world. The interaction between these units is in our case described in terms of attraction and repulsion.

The field-work was made easy by the fact that the Jibaros are extremely aware of and outspoken about their relations to each other. The continuous wars and fights have sharpened their feelings of friendship and hostility. As an example of this can be mentioned the not uncommon habit of the family head of beginning the day with a loud and fierce recitation of the names of enemies, so that the family members may not forget them. Repulsions, which sometimes have been difficult to record in our civilized societies, turned out to be even easier to get than the attractions."

"4. The point of departure is to be found in the works of J. L. Moreno and George A. Lundberg, as presented in such publications as for instance: J. L. Moreno: Who Shall Survive? Beacon House, N. Y., 1934; and 'Sociometry in Relation to Other Social Sciences', Sociometry, Vol. 1, 1937; Lundberg: Foundations of Sociology, McMillan, 1939. 'Social Attraction Patterns in a Village', Sociometry, no. 3-4, 1938, and 'The Growth of the Social Sciences', The American Journal of Sociology, no. 6, 1945."

31: Danielsson--90-91 (1946-48) 1949 Jivaro
116, 128, 571

"The cohesion within each group is shown in Table III. It is strikingly high. In all the geographical groups some few individuals have a central position chosen by the majority. Few or no choices are made by individuals from outside their own geographical group and few choices go to outsiders. The centripetal tendency is pronounced. The cohesion is computed by the following formula:

$$\frac{\frac{Ca + Ci}{I}}{\frac{Co}{0}} + \frac{O(Ca + Ci)}{ICo} \qquad [91]$$

where the letters indicate:

I = Number of individuals in in-group
0 = Number of individuals in out-group who receive choices from the in-group
Ci = Number of choices coming in
Co = Number of choices going out
Ca = Number of choices among the members of the in-group"

" TABLE III

Cohesion Within Each Geographical Group

Group	Choices per capita per members of in-group
Patuca	21.00
Yurupaza	9.50
Yaupi	10.66

This centripetal tendency is graphically demonstrated in the Charts II, IV and VI. If we for instance take Chart VI, the I (the number of individuals in the in-group) is 3 (Ila, VI6D, and V123D), 0=16, * Ci=26, Co=16, and Ca=6. The result according to the formula:

$$\frac{16(6+26)}{3\times 16} = \frac{512}{48} = 10.67\text{ "}$$

* Not indicated on the graph.

31: Danielsson--91-100 (1946-48) 1949 Jivaro-1
116, 571

"In Charts II-VII [KS: see pp. 94-99] some dominant groupings are shown. For the sake of lucidity the relations between all the marginal individuals are not shown. Only for the central constellations with which we are primarily concerned is the complete web of in-and out-going choices charted.(6) [92]

In Chart II, the attraction pattern, Patuca, the central figure V120E, chosen by everybody, is a ceremony man. Priests in the proper sense of the word do not exist among the Jibaros, but there is always a special performer of the rites during the important feasts, the victory feast, the tobacco feast, etc. The term whuea is used for the ceremony man which means 'old man'. As indicated in the chart (three circles) V120E is also the oldest one in this geographical group, having lived three generations.

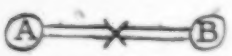
"6. Each Arabic figure refers to one person. The Roman figures indicate membership of family house, and the capital letters indicate relationship by birth. The number of the circles for each individual indicates the age, one for each generation of descendants that he has lived (as the Jibaros have no system for computing the age comparable to ours). Attraction and repulsion are indicated in the following way: after George A. Lundberg: Foundations of Sociology, McMillan, 1939, page 352, which follows closely Moreno's original instructions in Who Shall Survive?, p.114-16, Beacon House, 1934."

In Chart III, the repulsion pattern, Patuca, the individual V17D, has an equally central position. He is a sorcerer, with which word is meant a person trained in the magic arts, possessing the power of harming and curing people.(7) The great strength that he possesses is indicated by the fact that although he is repelled by all the individuals 1-16, he is in his turn indifferent. He regards them as inferior and harmless, as they do not have his knowledge of the magic arts.

In Chart IV, the attraction pattern, Yurupaza, the individual IV15C, is the chief in war, and 119C the ceremony man. At the time of the study a war is being waged against the Yaupis and IV15C, who is the most experienced one, has been appointed. In Chart V, the repulsion pattern, Yurupaza, a typical conflict situation, due to violation of traditional rights, is depicted. The family groups I and V are enemies of the two brothers III, 10D and III, 11D, and the hostility is mutual. The reason seemed to be a quarrel over the fishing rights in the river. (As can be seen on Map II family house III is situated between family houses I and V along the river). The difference between this repulsion pattern and that on Chart III, where the cause is sorcery, should be noticed. In Chart III the relations are repulsion-indifference, in Chart V repulsion-repulsion.

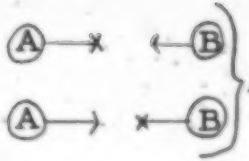
"7. The sorcerer is not always a professional man. The term medicine-man is generally used for a professional sorcerer."

Mutual attraction

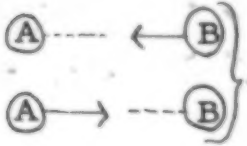


Mutual repulsion

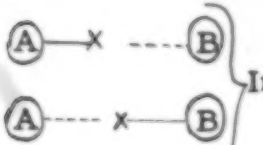
Mutual indifference



Attraction-Repulsion



Attraction-Indifference



Indifference-Repulsion

[100]*

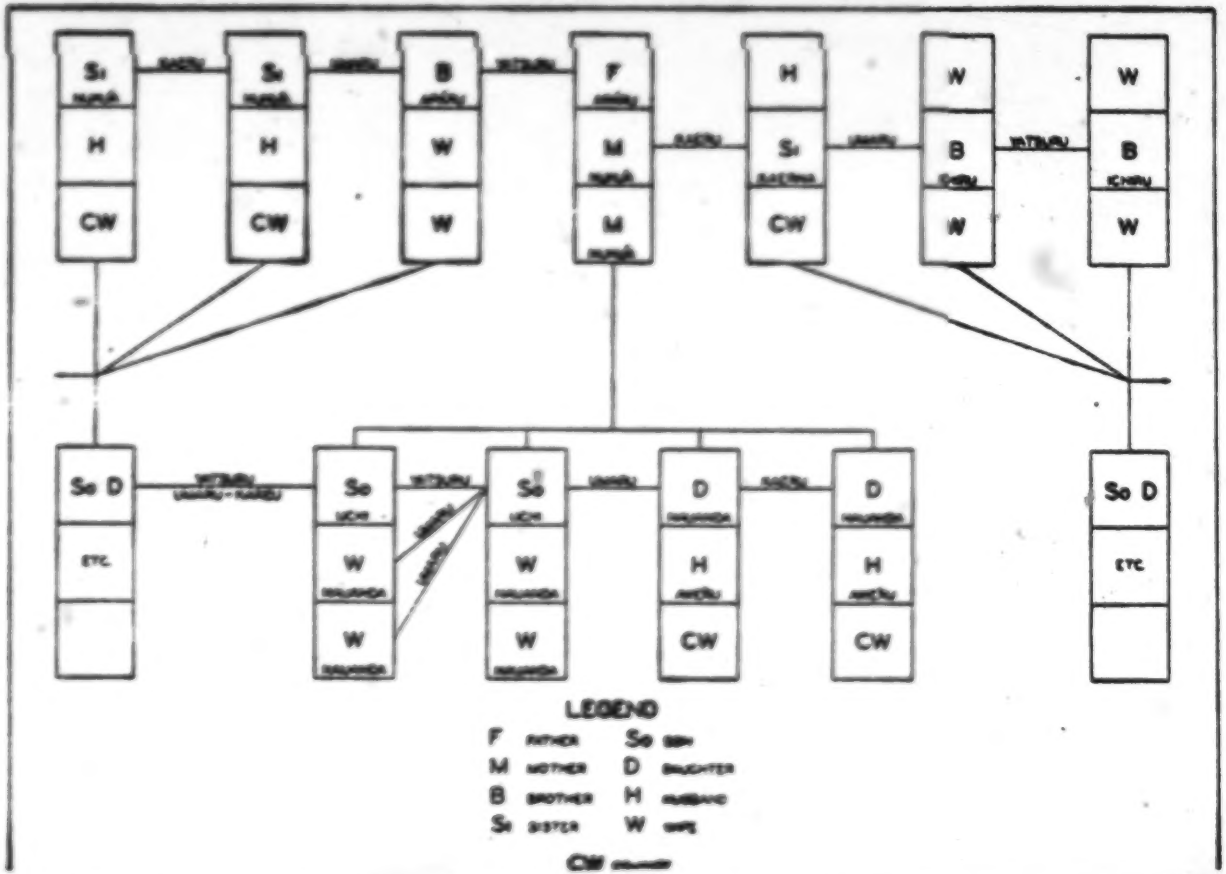
* [KS: Pages 93 through 99 contain charts.]

In Chart VI, the attraction pattern, Yaupi, the clevage into two groups is very apparent and corresponding to the geographical locations. Individuals 2-12 all chose IIA, and individuals 13-22 all chose V16D. Those central persons are both chiefs in war. They chose each other, thus uniting the two groups, and individual V123D, the ceremony man. The latter is evidently chosen because of the support from the two key-persons, who are the 'power behind the throne.' (A separate inquiry indicated that the majority wanted IV14C as ceremony man.) The reason why two chiefs in war were appointed, was that the Yaupis were waging two wars at the same time, one against the Yurupazas and another against a group further down the Santiago river (not included in the present study). IIA was a specialist on war against the former group and V16D on war against the latter group. In Chart VII, the repulsion pattern, Yaupi, the key-persons have interchanged their positions, which indicates that they both are practising black magic towards their respective out-groups."

31: Danielsson--93 (1946-48) 1949 Jivaro

116, 601

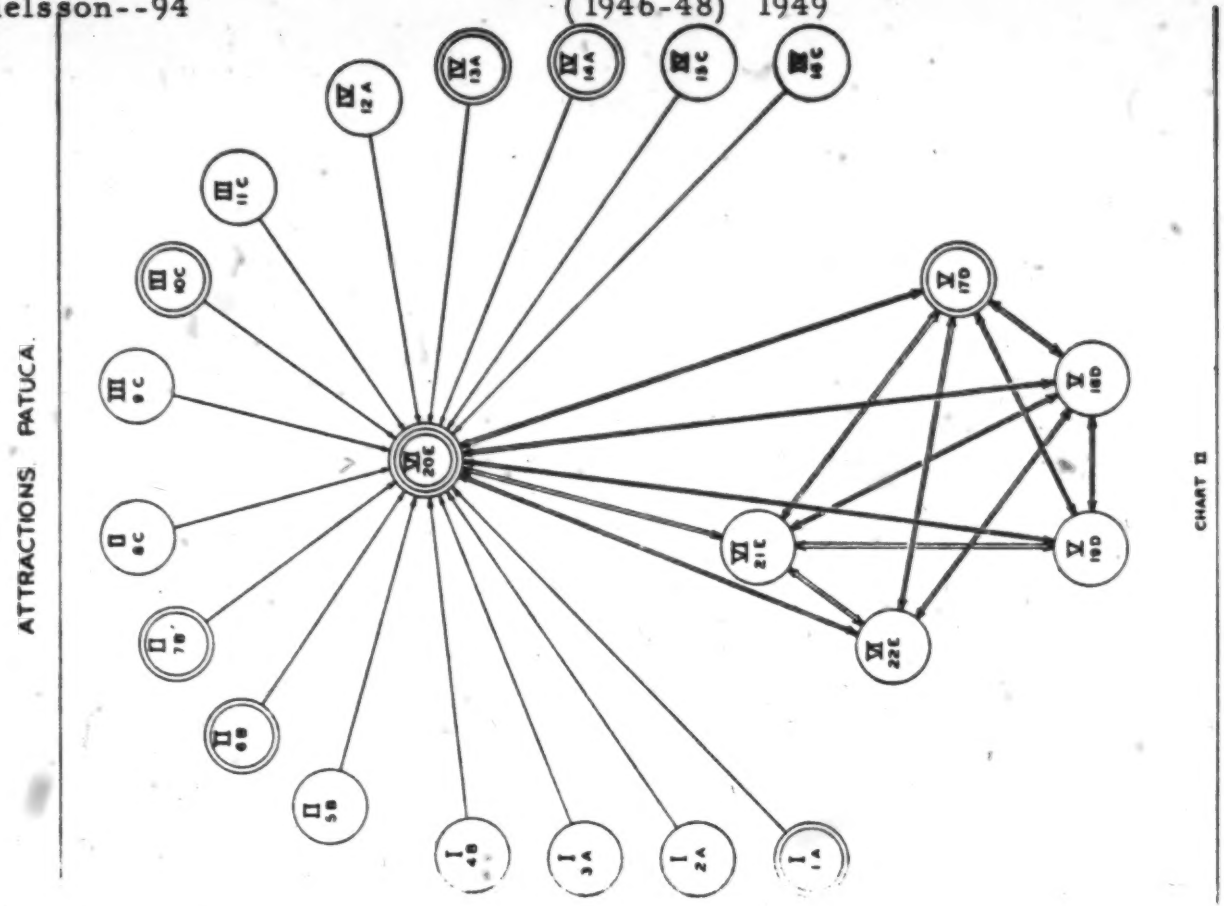
HOW THE JIBAROS DESIGNATE RELATIONSHIP



31: Danielsson--94
116, 571

(1946-48) 1949

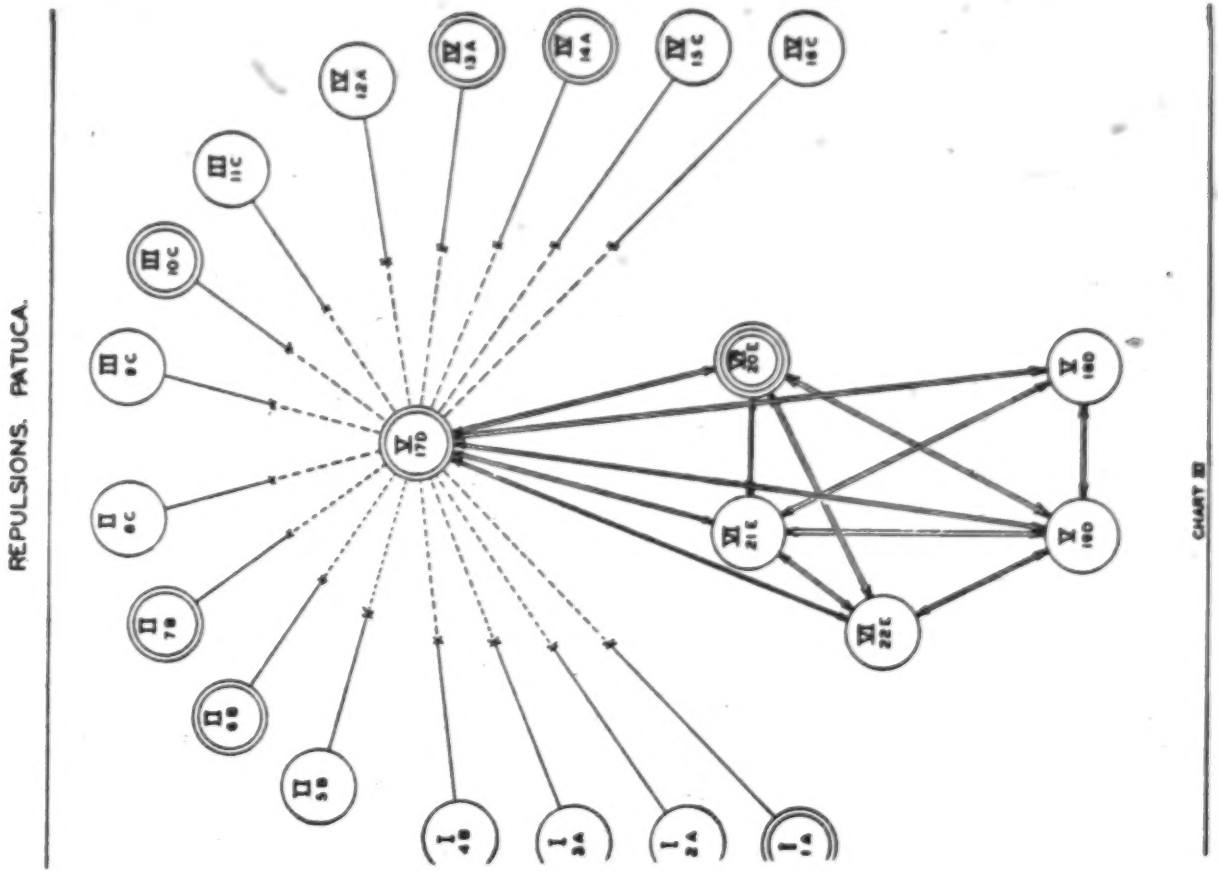
Jivaro



31; Danielsson--95
116, 571

(1946-48) 1949

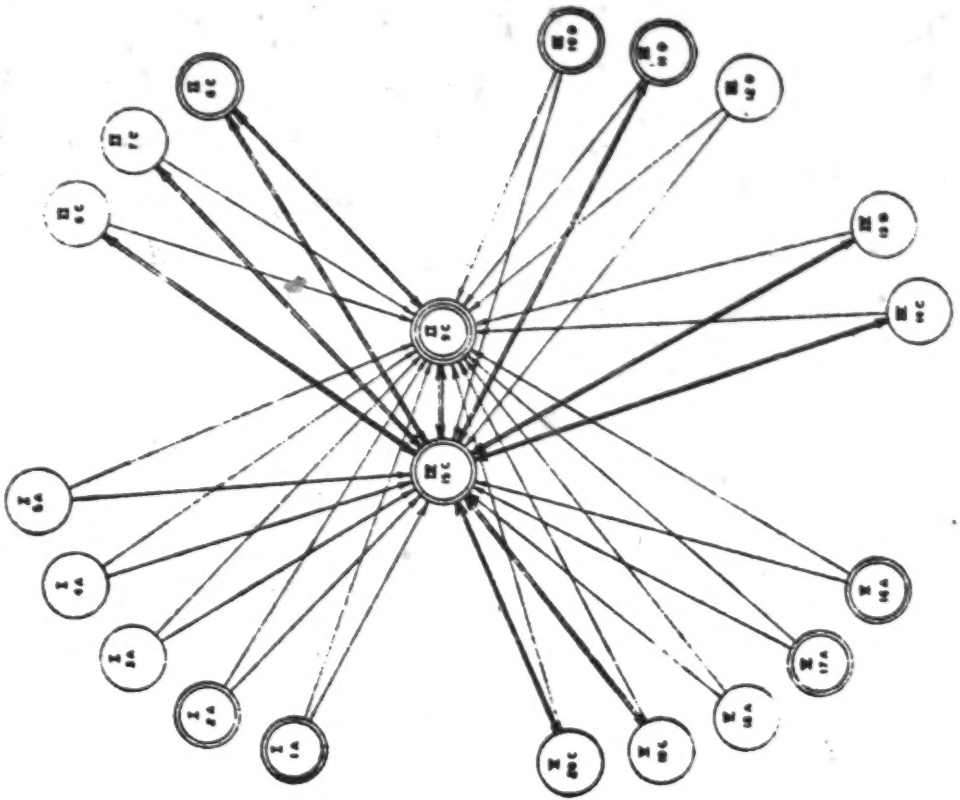
Jivaro



31: Danielsson--96
116, 571

(1946-48) 1949

Jivaro



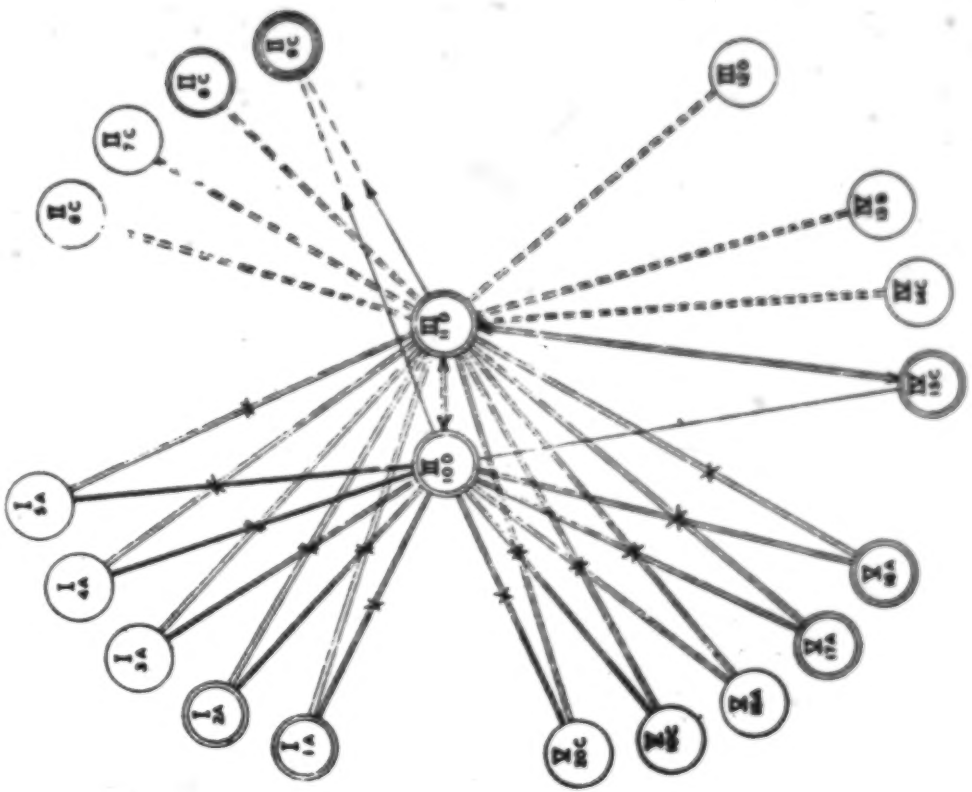
ATTRACTIONS: YURUPUZA

CHART IX

31: Danielsson--97
116, 571

(1946-48) 1949

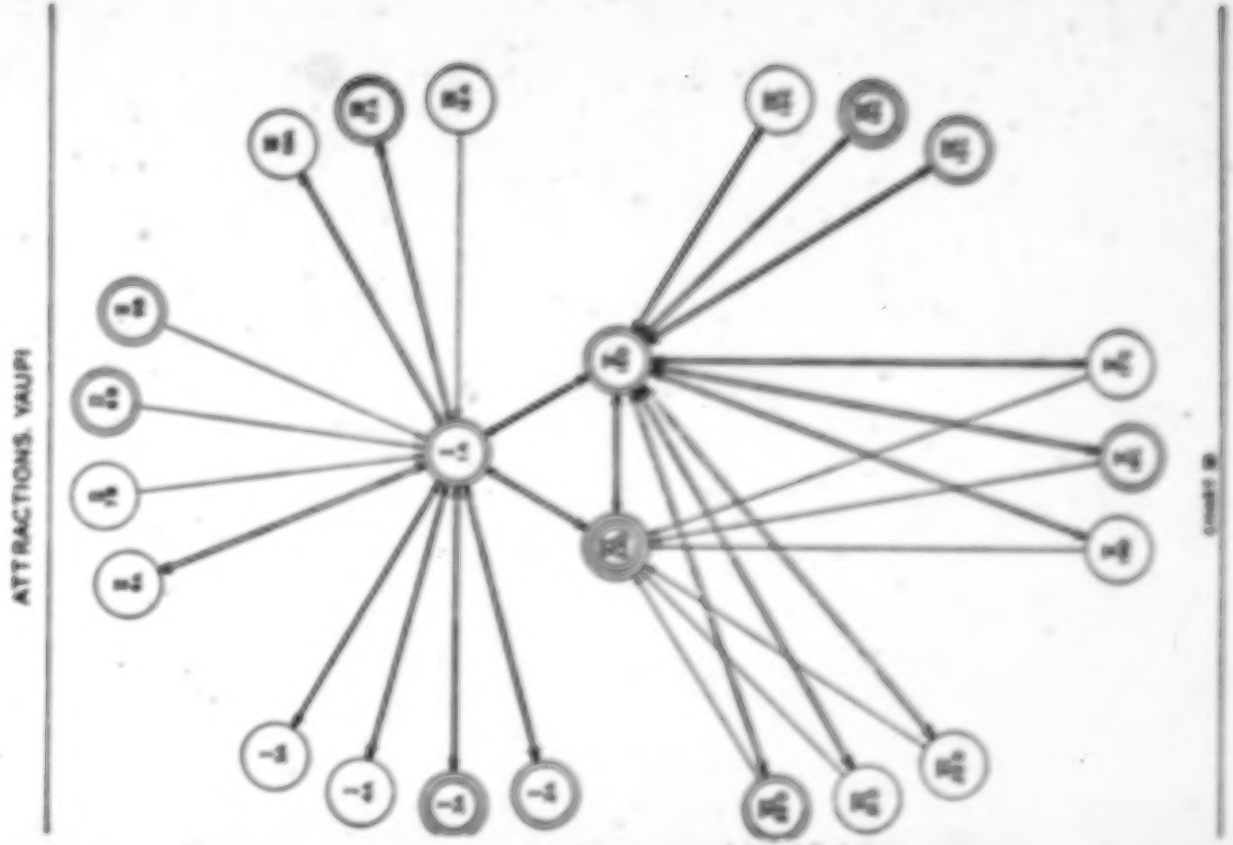
Jivaro



31; Danielsson--98
116, 571

(1946-48) 1949

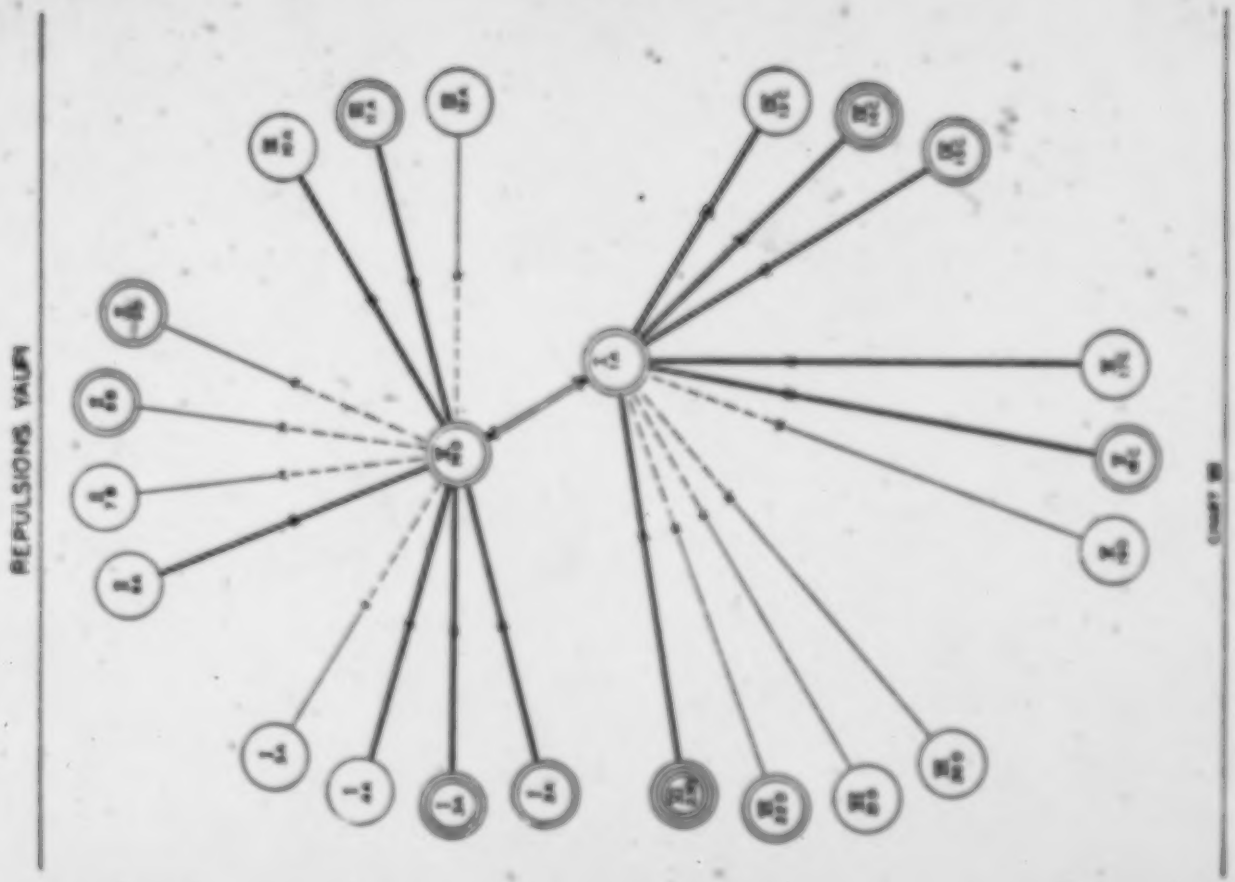
Jivaro



31: Danielsson--99
116, 571

(1946-48) 1949

Jivaro



31: Danielsson--100 (1946-48) 1949 Jivaro
116, 571

"Let us now ask: What theoretical significance do these charts have, if any? I think the best answer would be: They seem to offer a possibility of operational definitions of conceptions for a long time dealt with in vague conceptual terms only. It seems obvious that such words as chief in war, ceremony man, and sorcerer can be defined from the positions in the charts (or from the figures in the tables). Definitions of the proposed types would be the following ones for instance:

1. Chief in war = an individual receiving more than 50% of the total number of possible choices and being at least of an age of two generations. (E.g. IV15C in chart IV, IIA and V16D in chart VI).

2. Ceremony man = an individual, receiving more than 50% of the total number of possible choices and being at least of an age of three generations or regarded as being among the 25% oldest individuals. (E.g. V120E in chart II; II9C in chart IV and V123D in chart VI.)

3. Sorcerer = an individual, exposed to more than 50% of the total number of possible repulsion choices and in his turn demonstrating at least 25% indifferent responses. (E.g. V17D in chart III and IIA and V16D in chart VII.)

We are of course here only trying to point out the possibility of a special type of definitions. The figures and percentages indicated as suggestions correspond to the conditions in the three geographical groups studied, but if used more generally, they have naturally to be changed and refined by further research."

31: Danielsson--101 (1946-48) 1949 Jivaro
116, 571

"The limitation of the study to the verbally expressed attractions and repulsions of the male adults in the area indicated, was deliberately chosen as it made it possible to cover the greatest number of geographical groups in the time at my disposal. This limitation, however, immediately raises some questions about the relation of the chosen group to other groups and to other factors, as for instance:

a) What is the correlation between verbal and nonverbal behavior?

b) What is the correlation between (a) attraction-and-repulsion-patterns and (b) patterns of other kinds?

c) What is the correlation between the answers of the men and the women?

d) What is the correlation between repulsions and geographical space?"

TABLE IV

Total Number of Visits of Tribe Members During Two Weeks in Patuca

Family paying the visit		Family receiving the visit					
		I	II	III	IV	V	VI
I	Men	x	14	19	22	0	23
	Women	x	27	12	38	0	58
II	Men	17	x	14	23	0	27
	Women	5	x	24	39	0	31
III	Men	12	17	x	14	0	21
	Women	19	21	x	18	0	23
IV	Men	21	18	27	x	0	26
	Women	52	37	41	x	0	58
V	Men	0	0	0	0	x	31
	Women	0	0	0	2	x	28
VI	Men	7	5	2	8	17	x
	Women	12	8	9	3	19	x

The unit is one individual visit.

31: Danielsson--101-102 (1946-48) 1949 Jivaro
116, 571

"The reliability of the verbal expressions as an index for non-verbal behaviors has of course to be checked separately in each case. This was done among the Patucas. The result is shown by a comparison between Table V, where all visits during two weeks are listed, and Table VII where the oral testimonials from the same group are listed. The overlapping is almost complete. The houses of which the members are indicated as enemies are not visited. Table IV gives at the same time a good measure of the degree of friendship. Family VI for instance of which the member V120E [102] has a central position in the attraction pattern on Chart II is paid the highest number of visits.(8)

"8. See, Charles B. Loomis: 'Sociometries and the Study of New Rural Communities', Sociometry, Vol. II, 1939."

31: Danielsson--102 (1946-48) 1949 Jivaro
116, 571, 602, 582

"In our so-called civilized societies the correlations between the attraction-and-repulsion-patterns and the more formal patterns, such as familial relationships, economic status, occupation, club membership, etc., have to be taken into consideration. In the Jibaro society there are no formal patterns except the familial pattern. How the Jibaros designate familial relationship is shown on Chart I. The Jibaro family is patripotestal. The children use, for instance, the same word, aparu, for their biological father as well as for their paternal uncles. No parallel exists to this on the mother's side. The parents use the same word, nauanda, both for the daughters and the daughters-in-law. For the son-in-law, however, another term, aweru, is used than for the son, uchi. A marriage between cousins on the father's side or between a paternal uncle and his niece is regarded as incest, but on the mother's side marriages of these types are regarded as natural."

"As could be expected the blood relationship is highly correlated with attraction.(9) Table V shows the interaction within each family house, in all the three geographical groups, computed after the same formula used on page eleven:

$$\frac{\text{total choices made} \times 100}{N^2 - N}$$

TABLE V

Interaction Within Each Family House

Patuca family no.	Percentage	Yurupaza family no.	Percentage	Yaupi family no.	Percentage
I	100.00%	I	100.00%	I	100.00%
II	66.66%	II	100.00%	II	92.22%
III	100.00%	III	100.00%	III	100.00%
IV	100.00%	IV	33.33%	IV	100.00%
V	100.00%	V	100.00%	V	100.00%
VI	100.00%			VI	100.00%

"9. Irwin T. Sanders: 'Sociometric Work with a Bulgarian Woodcutting Group', Sociometry, Vol. II, 1939."

31: Danielsson--102-103 (1946-48) 1949 Jivaro-2
116, 571, 602, 592

In all the groups not showing a 100% interaction (Patuca II, Yurupaza IV, Yaupi II) the reason seemed to be a recent incorporation into the family group of a son-in-law (among the Jibaros the son-in-law frequently [103] moves over to the house of the father-in-law). In these cases (II8C among B-members in Patuca II, IV13B among C-members in Yurupaza IV, and 116A among B-members in Yaupi II) (see Charts II, IV and VI) the arrival of the new-comer is resented by some of the old members of the family house."

31: Danielsson--103 (1946-48) 1949 Jivaro
116, 571, 602

"Table VI shows the interaction between all persons related by birth, computed by the same formula as in the last case.

TABLE VI

Interaction Between Persons Related by Birth

Patuca relationship	Percentage	Yurupaza relationship	Percentage	Yaupi relationship	Percentage
A	100.00%	A	92.88%	A	93.05%
B	100.00%	B	100.00%	B	100.00%
C	90.00%	C	85.71%	C	90.50%
D	100.00%	D	100.00%	D	83.33%
E	100.00%				

The figures seem to be somewhat lower than in the previous case, but any definite conclusions are of course impossible to draw from such limited material. (It should be noted that the letters repeated for each geographical group have no reference to one another. Thus the members from the A-group in Patuca are not related to the members of the A-groups in Yurupaza or Yaupi)."

31; Danielsson--103-105 (1946-48) 1949 Jivaro-1
116, 571, 621, 186

"The overlapping of the answers of the male and female adults was studied in one geographical group, the Patucas. The result is shown in Table VII. As seen, the correspondence is almost perfect. Whether this holds true for all the geographical groups, and whether the women to women patterns correspond with those for men, only further research can demonstrate. It seems, however, likely that the men's opinion in the present matter to a large extent determine the women's also in other groups. This is supposed not because of a complete submission of the women--which is far from true--but because of the strict division of labor and interests between the sexes. Formation of alliances and actions against enemies are part of the 'politics' and as such belong exclusively to the masculine sphere.

Eventually an attempt was made to determine the relation between repulsions and geographical space. As already has been pointed out (Part I, pp. 6-7), great hostility exists between the different geographical groups. In order to ascertain the degree of hostility all male individuals of the three previous groups (Patuca, Yurupaza, Yaupi) and of another Jibaro group, otherwise not dealt with in this study, the Huambizas, living farther down the Santiago River, were interviewed about their feelings toward the [105]members of their respective out-groups. The number and percentage of individuals in each group answering that all the members of the other geographical

groups were enemies are indicated in Table VIII, column I. The figures for those who answered that one or more individuals from the other groups were friends are given in column II in the same table."

TABLE VII

CORRESPONDENCE BETWEEN MALE AND FEMALE VERBAL RESPONSES OF PATOCA

Responses by family		Espousal towards family I			II			III			IV			V			VI		
		Favorable	Hostility	Indifference	Favorable	Hostility	Indifference	Favorable	Hostility	Indifference	Favorable	Hostility	Indifference	Favorable	Hostility	Indifference	Favorable	Hostility	Indifference
I	4 men	x	x	x	4	0	0	4	0	0*	4	0	0	0	4	0	4	0	0
	14 women	x	x	x	14	0	0	14	0	0	14	0	0	0	14	0	14	0	0
II	1 man	1	0	0	x	x	x	1	0	0	1	0	0	0	1	0	1	0	0
	10 women	10	0	0	x	x	x	10	0	0	10	0	0	0	10	0	10	0	0
III	3 men	3	0	0	3	0	0	x	x	x	3	0	0	0	3	0	3	0	0
	7 women	7	0	0	7	0	0	x	x	x	7	0	0	0	7	0	7	0	0
IV	1 man	1	0	0	1	0	0	1	0	0	x	x	x	0	1	0	1	0	0
	20 women	20	0	0	20	0	0	20	0	0	x	x	x	0	20	0	20	0	0
V	3 men	0	2	1	0	2	1	0	2	1	0	2	1	x	x	x	3	0	0
	8 women	0	8	0	0	8	0	0	8	0	0	8	0	x	x	x	8	0	0
VI	3 men	2	0	1	2	0	1	2	0	1	2	0	1	3	0	0	x	x	x
	6 women	6	0	0	6	0	0	6	0	0	6	0	0	6	0	0	x	x	x

The unit is one individual response.

Editorial note: Observe how this matrix (Table VII) of interfamily choices by sense governs more rigorously the finding of hostility to the extreme shown in Chart III. Chart III isolates the interperson hostility; Table VII shows the resulting interfamily hostility and shows its extreme degree relative to all hostile interrelations among all the families.

TABLE VIII

FEELINGS OF HOSTILITY AND FRIENDSHIP BETWEEN THE DIFFERENT CONSANGUINEAL GROUPS

Feelings of the male individual from		toward the groups of Patoca		Yarupaea		Yagpi		Huambisa	
		all are enemies I	more are friends II	I	II	I	II	I	II
Patoca	(22)	0	0	18	4	21	1	22	0
		0	0	82.0%	17.4%	91.3%	8.7%	100%	0%
Yarupaea	(22)	18	4	0	0	20	2	22	0
		81.81%	18.19%	0	0	90.9%	9.1%	100%	0%
Yagpi	(24)	20	4	22	2	0	0	22	1
		83.33%	16.67%	91.66%	8.34%	0	0	95.83%	4.17%
Huambisa	(31*)	31	0	31	0	31	0	0	0
		100%	0%	100%	0%	100%	0%	0	0

* The actual number during our short stay. A party was out shooting.

"As could be suspected there is a positive correlation between the degree of Hostility and the geographical space. It seems likely that a correlation as indicated in Table IX could be found in the whole Jibaro country.

TABLE IX

Correlation Between Hostility and Geographical Space

Geographical groups	Approximate distance	Hostility in percentage (as in Table VIII)
Yurupasa-Huambisa	50 miles	100%
Huambisa-Yurupasa	50 miles	100%
Patuca-Huambisa	40 miles	100%
Huambisa-Patuca	40 miles	100%
Huambisa-Yaupi	30 miles	100%
Yaupi-Huambisa	30 miles	95.83%
Yaupi-Yurupasa	25 miles	91.66%
Patuca-Yaupi	25 miles	91.3%
Yurupasa-Yaupi	25 miles	90.90%
Yaupi-Patuca	25 miles	83.33%
Patuca-Yurupasa	15 miles	82.60%
Yurupasa-Patuca	15 miles	81.81%

31: Danielsson--105 [2] (1946-48) 1949 Jivaro
116, 121

"In spite of the very limited area from which the material pertaining to the present study is gathered, some suggestions and hints seem to present themselves concerning at least the following problems of more universal scope:

1. The laws for different types of groupings, centripetal, centrifugal, etc.
2. The operational definition of 'key persons'.
3. The correlation between verbal and non-verbal behavior.
4. The correlation between attraction and blood relationship.
5. The relation between repulsion and geographical space.

These problems can of course be solved only by inventing hypotheses and having them tested out through further research.

What we mainly have wished to call attention to in this paper is, however, that in this principal task of sociology it seems apparent that excellent opportunities for gathering basic material and for testing new hypotheses in many cases may be offered by studies among so-called primitive peoples."